ABSTRACT OF THE DISCLOSURE

Replaceable heel construction for shoes in which a heel base portion and a heel tread portion are provided. The heel base carries a latch plate with rear and front openings having marginal tongues, the rear tongues being inclined and providing fulcrums and guides and the front tongues being upright and providing guides. The heel tread portion has inclined complemental rear projections for engagement with the rear tongues and the front projections have edges for engagement with the front tongues and opposite notched edges. The latch plate has a spring urged slidable latch member thereon with a transverse holding portion engageable in the notches. The latch member is movable against the force of the spring to permit removal of the heel tread portion.

This invention relates to detachable and replaceable heels for shoes.

Satisfactory forms of replaceable heels for shoes are shown and described in my prior Patent Nos. 2,945,311 and 3,201,877 and the present invention relates to replaceable heels in which a more positive holding of the heel is provided while employing a spring for retaining the heel in locked position.

It is the principal object of the present invention to provide detachable heels for shoes in which the same heel construction can be used on shoes for right and for left feet and in which spring impelled positive holding of the heel is employed.

It is a further object of the present invention to provide detachable heels for shoes in which the construction is simple while providing greater reliability in use.

It is a further object of the present invention to provide replaceable heels of the character aforesaid in which the appearance is unimpaired.

It is a further object of the present invention to provide detachable heels for shoes in which a resiliently held slidable bolt mechanism is provided in a heel base portion carried by the shoe with tongues on the replaceable heel portion engaged and disengaged as desired.

Other objects and advantageous features of the invention will be apparent from the description and claims.

The nature and characteristic features of the invention will be more readily understood from the following description, taken in connection with the accompanying drawings forming part thereof, in which:

FIGURE 1 is a view in perspective of the heel portion of a shoe removed from the shoe and having the heel tread member attached thereto;

FIG. 2 is an exploded perspective view of the heel base clamping mechanism and heel tread member;

FIG. 3 is a longitudinal vertical sectional view, enlarged, taken approximately on the line 3-3 of FIG. 1;

FIG. 4 is a longitudinal sectional view, enlarged, taken approximately on the line 4-4 of FIG. 1:

FIG. 5 is a transverse vertical sectional view taken approximately on the line 5-5 of FIG. 3; and

FIG. 6 is a transverse vertical sectional view taken approximately on the line 6-6 of FIG. 3.

It should, of course, be understood that the description and drawings herein are illustrative merely, and that various modifications and changes can be made in the structure disclosed without departing from the spirit of the invention.

Like numerals refer to like parts throughout the several views.

The heel construction in accordance with the invention preferably includes as components thereof a heel base which is attached to the shoe and to which is attached a latch plate with a spring impelled slidable latch. The heel pad, removable for replacement, has a plate therein with tongues extending therefrom for engagement with the latch. A release pin engaging a lug on the latch permits of moving the latch to a position for disengagement and so that the heel pad can be removed and replaced.

Referring now more particularly to the drawings, for purposes of illustration the base portion of a heel is illustrated at 10, the same preferably being made of molded synthetic plastic or other suitable material as desired, and permanently attached to the sole of a shoe (not shown) in any desired manner, such as by fasteners 11 of any desired type which extend through openings 12.

The heel base portion 10 is provided with a central opening 13 and has a recess 14 on the lower face thereof for the reception of a latch plate 16. The latch plate 16 is preferably made as a metal stamping and is secured in position in any desired manner such as by the fasteners 11 which extend upwardly through the openings 12. The latch plate 16 contiguous to the rear thereof has spaced rearly inclined guide and fulcrum tongues 17 providing spaced longitudinal openings 18 and contiguous to the front thereof spaced front-structure tongues 20 providing spaced longitudinal openings 21, and extending outwardly from the plate 16 along the outer margins of the openings 20 are upwardly and inwardly extending front retaining lugs 22. Structural features of the plate 16 along the outer margins of the openings 18 are upwardly and inwardly extending rear retaining lugs 23.

The plate 16 rearwardly of the tongues 17 has a central upwardly extending abutment 25 with a central dimple 26 for the retention of one end of a compression spring 27. The latch plate 16 carries a latch 30 preferably made as a metal stamping, slidable along the upper face thereof of substantially T-shape and with a flat cross bar portion 31 slidable along and held against undesired displacement by the front retaining lugs 22. The latch 30 also has a short rear transverse portion 32 which is slidable along and is held against undesired displacement by the rear retaining lugs 23.

The latch 30 has a struck-up rear end abutment 33 with a central dimple 34 with which the other end of the spring 27 is in engagement. The rear end abutment 33, by engagement with the rear ends of the rear retaining lugs 23, serves as a limit stop for limiting the forward movement of the latch 30.

The latch 30 has a struck-up front end abutment 35 for engagement by the head 36 of release pin 37. The pin 37 is slidable carried in the heel base portion 10 and is accessible but not conspicuously so when the sole of the shoe is turned upwardly.

The heel pad or tread 40 for use with the holding structure just described is preferably made of rubber symmetrical about a vertical, longitudinal plane, and has a body portion with a plate 41 on the bottom thereof and formed as a stamping, molded or otherwise secured therein. The plate 41 has a rear spaced projection 42 with rear notches 43, having inclined guide faces 44. The projections 42 are adapted to engage with the openings 18 and be fulcrumed on and guided to position by the tongues 17 and the fasteners 45 engaged thereon.

The heel plate 41 also has front spaced projections 45 carried thereon. The projections 45 have horizontal notches 46 with inclined impelling faces 47 thereabove.
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and holding faces 48 opposite the notches 46. The projections 45 are adapted to extend through the openings 20, urge the latch 30 rearwardly so that the notches 46 can be positioned for engagement by the cross bar portion 31. The holding faces 48 engage the tongues 20.

The heel pad 40 preferably has a slided upper face 50 which accommodates irregularities of the heel pad 40 and heel base portion 10 and permits utilizing the resiliency of the heel pad material and of obtaining a tight fit between the outer margins of the heel pad 40 and the heel base portion 10.

The mode of attachment and detachment of the heel pad or tread 40 will now be pointed out.

When it is desired to initially apply a heel tread member 40 the pin 37 may be pressed forwardly to facilitate the mounting of the heel pad 40 although usually it is not necessary to move the pin 37 for heel pad application.

The heel pad 40 to be mounted is then brought to a position to insert the rear projections 42 through the rear openings 18. The tongues 17 provide guide and fulcrum faces upon the engagement therewith of the guide faces 44. The front projections 45 are then inserted in the front openings 21 and their surfaces 47 engage the front edges of the cross bar portion 31 of the latch 30 and urge the latch rearwardly against the force of the spring 27 until the notches 43 are in position for the cross bar portion 31 to move thereinto.

The heel pad or tread 40 is firmly held against displacement in any direction. The tongues 17 in engagement with the rear projections 42 and the tongues 29 in engagement with the front projections 45 prevent rearward and forward movement. Sidewise movement is prevented by the engagement of the projections 45 with the edges of the slots or openings 21 and by the engagement of the projections 42 with the edges of the slots or openings 18. Separation of the heel pad 40 is prevented by the engagement of the rear projections 42 in the openings 18 and with the tongues 17 and by the engagement of the cross bar portion 31 in the notches 46.

If replacement of the heel pad 40 is desired by reason of wear, the pin 37 is moved inwardly to a sufficient extent to move the cross bar portion 31 out of engagement with the notches 46. The heel pad 30 may then be swung outwardly and then disengaged at the rear projections 42.

A new heel pad 40 may then be applied as previously explained.

1 claim:
1. A heel construction comprising a heel base portion, a detachable and replaceable heel tread portion, said portions having interior facing parts, one of said portions having a latch plate mounted therein, said latch plate having spaced front and rear pairs of openings, said rear pair of openings having rear inclined guiding tongues extending from the rear margins thereof and the front pair of openings having upright tongues extending from the front margins thereof, the other of said heel base and heel tread portions having spaced front and rear pairs of projections received in said openings, the rear pair of projections being shaped complementarily to said rear guiding tongues thereby proving fulcrums and positioning guides for the rear of said latch plate, the front pair of projections having edges for engagement with the front pair of tongues and oppositely notched edges, a latch member slidably mounted on said plate and having a transverse holding portion engageable in said notched edges, and a resilient member carried on said latch plate and urging said holding portion into engagement in said notched edges.

2. A heel construction as defined in claim 1 in which said latch plate has integral lugs which provide the slidable mounting for said latch member.

3. A heel construction as defined in claim 1 in which said latch plate has an integral abutment extending therefrom, said latch has an integral abutment extending therefrom, and said resilient member is interposed between and is in engagement with said abutments.

4. A heel construction as defined in claim 3 in which said latch has an additional abutment, and one of said portions has a release pin mounted thereon for engagement with said abutment to move said latch to a position with said transversely extending portion out of engagement in said notches.

5. A heel construction as defined in claim 1 in which said front projections have inclined faces for urging said latch member against the force of said resilient member to facilitate seating of said tread portion and engagement of said transverse holding portion in said notches.

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